No. 9800327

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

University of Georgia Research Foundation, Inc. (UGARF)
and Florida Agricultural Experiment Station (FAES)

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'518W'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twelfth day of September, in the year two thousand one.

Attest:

Paul M. Jarboe

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*
University of Georgia Research Foundation, Inc. (UGARF) and Florida Agricultural Experiment Station (FAES)

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER
GA87467E24

3. VARIETY NAME
518W

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
Boyd Graduate Studies Research Center
Room 630, D.W. Brooks Drive
Athens, GA 30602-7411

5. TELEPHONE *(Include area code)*
706-542-6512

6. FAX *(Include area code)*
706-542-3837

FOR OFFICIAL USE ONLY

PVPO NUMBER
9800327

FILING DATE
6/23/98

FEES RECEIVED
FILING AND EXAMINATION FEE:
$ 2450.00
DATE
6/23/98

CERTIFICATION FEE:
$ 320.00
DATE
8/27/01

7. GENUS AND SPECIES NAME
Triticum aestivum

8. FAMILY NAME *(Botanical)*
Gramineae

9. CROP KIND NAME *(Common name)*
Wheat, common

10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.) (Common name)*
Corporation (UGARF) and University (FAES)

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Georgia (UGARF)

12. DATE OF INCORPORATION
November 17, 1978

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Dr. John Ingle
University of Georgia Research Foundation, Inc. and Florida Agricultural Experiment Station
630 Boyd Graduate Studies Research Center
Athens, GA 30602-7411

14. TELEPHONE *(Include area code)*
706-542-6512

15. FAX *(Include area code)*
706-542-3837

16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow instructions on reverse)*

a. ☒ Exhibit A. Origin and Breeding History of the Variety
b. ☒ Exhibit B. Statement of Distinctness
c. ☒ Exhibit C. Objective Description of the Variety
d. ☒ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☒ Exhibit E. Statement of the Basis of the Applicant's Ownership
f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☒ Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to PVPO)*

17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)*
☐ YES *(If "yes," answer items 18 and 19 below)* ☒ NO *(If "no," go to item 20)*

18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO

19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☒ CERTIFIED

20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☐ YES *(If "yes," give names of countries and dates)* ☒ NO

21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT *(Owner(s))*		SIGNATURE OF APPLICANT *(Owner(s))*	
NAME *(Please print or type)* Joe L. Key		NAME *(Please print or type)*	
CAPACITY OR TITLE Executive Vice President	DATE 6-22-98	CAPACITY OR TITLE	DATE

Exhibit A
Origin and Breeding History of 518W

'518W ' a soft red winter wheat (Triticum aestivum L.) was cooperatively developed and released by the Georgia and Florida Agricultural Experiment Stations in 1997. 518W was derived from a three way cross in 1987: GA 80573 // 'GA-Gore' / 'Balkan'. GA 80573 is an experimental line from the cross, SS Tuscan V/'Blueboy'. Balkan is an European line which possesses the 1B/1R. Solid Straw Tuscan Variant, PI 108980, was used because it possesses a solid stem and large seeds. The cultivar was developed using a modified pedigree method of breeding. The F1 was grown in the field during the 1987 season. Individual spike selections were made in the F2 thru F5 generations for leaf rust, powdery mildew, septoria nodorum and agronomic traits at Plains, GA. 518W is the F5-derived bulk of seven F8 head rows bulked selected from 100 head rows. Breeder seed, produced in 1997, is in the F10 generation.

518W was evaluated for agronomic performance as GA 87467E24 in breeding nursery plots in 1993 (1 rep at two locations) and 1994 (4 rep at four locations), in state trials at five locations in 1995 thru 1997, and in the Uniform Southern Soft Red Winter Wheat Nursery at about 29 locations in 1997.

518W is an medium maturing, awnless, white chaffed, short statured (88 cm) at maturity, apically awnletted and has moderate straw strength. During the 3 yr (five locations yr-1 in Georgia, 518W and GA-Gore yielded an average of 3808 and 3806 kg ha-1, respectively. It matures on average 1 day earlier than GA-Gore. Milling and baking quality characteristics of 518W are rated as adequate for soft red winter wheat by the USDA-Soft Wheat Quality Laboratory, Wooster, OH.

518W is susceptible to all biotypes of Hessian fly (Mayetiola destructor (Say)) in Georgia. It is resistant to current races of leaf rust caused by Puccinia recondita (Roberge ex Desmaz), and moderately resistance to powdery mildew (Erysiphe graminis DC. f. sp. tritici Em. Marchal) in the Southeast.

518W has remained uniform and stable in composition through five generation of selfing in the field. Variants are limited to less than 1% and may include slightly tall late and awned plants.

Revised Exhibit B

Novelty Statement 518W

518W is a soft red winter wheat which is uniquely different but is most similar in appearance to one its parent GA-Gore. However, 518W has a clavate head shape and crooked peduncle whereas GA-Gore has a oblong head shape and straight peduncle.

518W is susceptible in the field to biotypes O and M for Hessian fly while GA-Gore is resistant (attached table). 518W is susceptible to all biotypes tested in the greenhouse, USDA-ARS Hessian Fly Laboratory, Purdue University.

Hessian Fly infestations of GA 87467 and check cultivars 1996 and 1997 at Plains, Georgia.

Entry	% Infested stems		Immatures per stem	
	1996	1997	1996	1997
GA 87467	24a	16a	0.37a	0.28a
Gore	1b	1b	0.00b	0.01b
C9835	0b	0b	0.00b	0.00b
PIO 2684	4b	1b	0.04b	0.01b
Lsd (0.05)	12	9	0.069	0.16

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
COMMODITIES SCIENTIFIC SUPPORT DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
University of Georgia Research Foundation, Inc.

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)

FOR OFFICIAL USE ONLY
PVPO NUMBER 9800327
VARIETY NAME OR TEMPORARY DESIGNATION
518W

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. KIND:
[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:
[2] 1 = SPRING 2 = WINTER 3 = OTHER (*Specify*) _____ [1] 1 = SOFT 2 = HARD 3 = OTHER (*Specify*) _____

[2] 1 = WHITE 2 = RED 3 = OTHER (*Specify*) _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:
[1][3][4] FIRST FLOWERING [1][3][8] LAST FLOWERING

4. MATURITY (50% Flowering):
[0][1] NO. OF DAYS *EARLIER* THAN ..... [7] 1 = ARTHUR 2 = SCOUT 3 = CHRIS
[ ][ ] NO. OF DAYS *LATER* THAN ..... [ ] 4 = LEMHI 5 = NUGAINES 6 = LEEDS 7=Ga-Core

5. PLANT HEIGHT (From soil level to top of head):
[0][8][8] CM. HIGH
[ ][ ] CM. TALLER THAN ..... [ ]
[0][5] CM. SHORTER THAN ..... [7] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS 7= GA. Gore

6. PLANT COLOR AT BOOTING (See reverse):
[3] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHER COLOR:
[1] 1 = YELLOW 2 = PURPLE

8. STEM:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[2] Waxy bloom: 1 = ABSENT 2 = PRESENT
[2] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT
[1] Internodes: 1 = HOLLOW 2 = SOLID
[0][3] NO. OF NODES (*Originating from node above ground*)
[1][8] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[1] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:
[1] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (*Specify*): _____
[1] Flag leaf: 1 = NOT TWISTED 2 = TWISTED
[1] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT
[2] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
[1][1] MM. LEAF WIDTH (*First leaf below flag leaf*)
[2][0] CM. LEAF LENGTH (*First leaf below flag leaf*):

FORM LMGS 470-6 (6-82) (Formerly Form LPGS 470-6 (3-79), which may be used)

9800327

11. HEAD:

[2] Density: 1 = LAX 2 = DENSE

[3] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) _____

[2] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

[1] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

[0 6] CM. LENGTH.

[1 1] MM. WIDTH

12. GLUMES AT MATURITY:

[3] Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)

[3] Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

[2] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[2] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

[ ] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[ ] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

[2] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

[1] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[1] Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

[1] Brush: 1 = NOT COLLARED 2 = COLLARED

[ ] Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[3] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

[0 6] MM. LENGTH

[0 4] MM. WIDTH

[3 8] GM. PER 1000 SEEDS

17. SEED CREASE:

[1] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

[1] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[2] STEM RUST (Races) QFCQ RKRQ

[2] LEAF RUST (Races) PLMQ, MCJL TLGG, MRRL MBCQ

[0] STRIPE RUST (Races) _____

[0] LOOSE SMUT

[2] POWDERY MILDEW

[ ] BUNT

[ ] OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] SAWFLY

[0] APHID (Bydv.)

[0] GREEN BUG

[0] CEREAL LEAF BEETLE

[ ] OTHER (Specify) _____

HESSIAN FLY RACES:

[1] GP [1] A [1] B [1] C

[1] D [1] E [0] F [1] G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	GA-GORE	Seed size	GA-GORE
Leaf size	GA-GORE	Seed shape	GA-CORE
Leaf color	GA-GORE	Coleoptile elongation	
Leaf carriage	GA-GORE	Seedling pigmentation	

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggle and L. P. Reitz, 1963. Classification of Triticum Species and Wheat Varieties Grown in the United States. Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965. A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

Exhibit D

Additional Description of 518W

518W is a common soft red winter wheat, Triticum aestivum L. bred and developed by the University of Georgia, Georgia Agricultural Experiment Stations and developed jointly by Jerry W. Johnson and Ron D. Barnett with the University of Florida, Florida Agricultural Experimental Station.

518W is medium maturing, high yielding, apically-awnleted and short in stature at maturity. It has excellent resistant to leaf rust, Puccinia recondita (Roberge ex Desmaz). 518W is moderately resistant to races of powdery mildew, (Erysiphe graminis DC. f. sp. tritici Em. Marchal) in the southeast region and has a moderate level of resistance to leaf and glume blotch, (Stagonospora nodorum and barley yellow dwarf virus. Information on the milling and baking quality characteristics is also included in a quality report. Additional information is presented in Tables 1-13 attached to this Exhibit.

Table 1. Average performance of GA 847467 and check cultivars in Elite Nursery, 1994.

Entry	Yield Bu/A	Test Wt. lbs/bu[1]	Lodging %[2]	Date Headed[1]	Height in
GA 87467	97.4a	58.4	30	4/04	33
Gore	89.4b	57.8	43	4/04	34
C 9835	93.9ab	57.6	33	4/07	31
PIO 2684	92.2a	62.6	22	4/04	34

[1] Plains and Griffin
[2] Plains, Griffin, and Calhoun

Table 2. Average yield performance of GA 87467 and check cultivars over 2 years (1995-1996) at five locations.

	Location					
Entry	Tifton	Plains	Midville	Griffin	Calhoun	Average
GA 87467	50.2c	59.9a	68.9a	64.1a	55.0a	59.6a
Gore	55.7b	58.9a	68.4a	69.0a	61.3a	62.7a
C 9835	48.3c	54.1a	60.1a	71.5a	64.0a	59.6a
PIO 2684	66.4a	62.2a	72.1a	66.9a	63.8a	66.3a

Table 3. Average performance of GA 87467 and check cultivars over 2 years (1995-1996).

Entry	Test Wt. lbs/bu	Lodging %	Date Headed	Height in
GA 87467	55.5c	19	4/14	36
Gore	57.5b	21	4/13	37
C 9835	56.0c	5	4/15	34
PIO 2684	59.5a	12	4/14	37

Table 4. Average performance of GA 87467 and check cultivars over 2 years (1995-1996).

Entry	Leaf Rust[1] %	Powdery Mildew$_2$ %	Hessian Fly %	BYD$_3$ %	Septoria nodorum$_4$ %
GA 87467	0c	2	25	15	21
Gore	41b	1	1	10	15
Dozier	1c	5	3	5	8
C 9835	86a	10	1	10	8
PIO 2684	56ab	0	2	5	10

[1] Tifton, Plains, 1995
[2] Tifton, Plains, Griffin, 1995
[3] Tifton, 1995
[4] Tifton, 1995 and Plains, 199

Table 5. Average yield performance of GA 87467 and check cultivars over 3 years (1995-1997) at five locations.

Entry	Location					Average		
	Tifton	Plains	Midville	Griffin	Calhoun	S. GA.	N. GA.	STATE
GA 87467	48.4b	54.4a	67.1ab	67.2a	51.4c	56.6b	59.3b	57.7b
Gore	52.9b	47.5a	64.8b	66.1a	56.9b	55.0b	61.5b	57.6b
C 9835	48.5b	55.0a	60.9c	74.4a	59.1ab	54.8b	66.9a	59.6b
PI0 2684	62.2a	57.4a	69.0a	72.4a	62.4a	62.8a	67.0a	64.5a

Table 6. Average performance of GA 87467 and check cultivars over 3 years (1995-1997).

Entry	Test Wt. lbs/bu	Date Headed	Lodging %	Height in.
GA 87467	55.5c	4-7	29	35
Gore	56.8b	4-8	29	37
C 9835	56.0bc	4-9	7	34
PI0 2684	59.1a	4-8	11	36

Table 7. Average performance of GA 87467 and check cultivars over 3 years (1995-1997).

Entry	Leaf Rust %	Powdery Mildew %	BYD %	Septoria Nodorum %
GA 87467	0b	1	28	22
Gore	33a	1	24	15
C 9835	53a	11	17	25
P 2684	49a	0	11	10

Table 8. Average performance of GA 87467 and check cultivars in Elite Nursery at Plains and Griffin, 1997.

Entry	Yield Bu/A	Test Wt. lbs/bu	Lodging %	Date Headed	Height in
GA 87467	78.3a	58.5	20	3/25	29
Gore	66.0b	58.5	10	3/30	30
C 9835	73.6a	59.1	5	3/31	26
PIO 2684	68.0b	59.9	5	3/28	30

Table 9. Average performance of GA 87467 and check cultivars in other states performance trials and/or Uniform Southern Wheat Nursery (23 Trials)++, 1997.

Entry	Yield Bu/A	Test Wt Lbs/Bu	Date Headed	Lodging	Height	Leaf Rust	Powdery Mildew
GA 87467	75.8	56.9	4-14	16	35	5	4
C 9835	74.4	56.6	4-20	7	33	11	12
P 2643	72.3	57.1	4-17	8	31	23	4

++ States and (number of Locations) tested: Arkansas (6) , Louisiana (1), Mississippi (2), North Carolina (4), South Carolina (4), Texas (1), Virginia (5).

Arkansas (Bay, Keiser, Kibler, Marianna, Rohwer, Hope); Louisiana (Baton Rouge); Mississippi (Raymond, Newton); North Carolina (Kinston, Bertie, Lendir, Washington); South Carolina (Simpson-early and late planting, Florence, Blacksville); Texas (Overton); Virginia (Blacksburg, Holland, Painter, Warsaw, Orange).

Table 10. Average performance of GA 87467 and check cultivars in other states performance trials and/or Uniform Southern Wheat Nursery (23 Trials)++, 1997.

	Location					
Entry	AR	LA	MS	SC	NC	VA
GA 87467	81.3	57.5	30.1	95.3	59.0	93.2
C 9835	79.5	49.4	48.0	99.3	62.5	78.2
PI0 2643	82.7	42.8	53.5	87.0	60.8	77.2

Table 11.

Hessian infestations in entries of the State Wheat Variety Trial at Griffin, GA in spring of 1997.

Entry	% Infested stems	Immatures per stem
● Clemens	80.0 *	3.07 *
● Coker 9803	60.0 *	1.67 *
● Jackson	58.7 *	1.71 *
■ GA-Dozier	57.3 *	1.25 *
Coker L910097	57.3 *	1.44 *
■ VA 93-52-60	54.7 *	1.16 *
● Featherstone 520	53.3 *	1.67 *
● Hunter	48.0 *	1.28 *
■ Coker 9134	42.7 *	0.91 *
● Clark	42.7 *	0.99 *
Agripro 92D+4413	42.7 *	0.95 *
Kucharek-A28	37.3 *	1.03 *
● GA 87467-E24	34.7 *	0.91 *
GA 891283-LE18	33.3 *	0.97 *
● Mason	33.3 *	1.07 *
Agratech FFR 522W	32.0 *	0.65 *
● Clemson 201	30.7 *	1.08 *
■ GA Gore	29.3 *	0.52
■ Madison	29.3 *	0.52
■ Florida 304	29.3 *	0.51
● Pioneer 2643	28.0 *	0.53
● Jaypee	26.7 *	0.59 *
■ Pioneer 2628	16.0	0.24
■ Pioneer 2580	16.0	0.33
■ Hickory	12.0	0.20
■ Coker 9835	10.7	0.25
■ Morey	10.7	0.21
■ GA Fleming (90078-I)	9.3	0.27
■ GA 87105-E43	8.0	0.20
■ Pioneer 2684	8.0	0.13
GA 881186-E48	5.3	0.08
■ GA 871339-E18	5.3	0.08
Coker 9663	5.3	0.08
GA 89482-E7	4.0	0.12
Pioneer 2691	4.0	0.09
FL 92944RCX	2.7	0.04
FL 931839A5	1.3	0.07
GA 81404-E56	1.3	0.01
GA 88130-LE5	0	0
■ GA Stuckey	0	0
LSD 0.1	19.9	0.57
LSD 0.05	23.9	0.69

* indicates mean is significantly greater than zero ($P < 0.1$; LSD test).

● Susceptible in previous tests.

■ Resistant in previous tests.

Table 12

Hessian infestations in entries of the State Wheat Variety Trial at Plains, GA in spring of 1997.

Entry	% Infested stems	Immatures per stem
● GA 87467-E24	16.0 *	0.28 *
Kucharek A28	16.0 *	0.21 *
● Featherstone 520	16.0 *	0.21 *
● Clemens	13.3 *	0.29 *
Agratech FFR 522W	12.0 *	0.32 *
● Pioneer 2643	12.0 *	0.16 *
● Coker 9803	12.0 *	0.13 *
● Mason	6.7	0.07
■ Madison	6.7	0.09
■ Pioneer 2580	6.7	0.08
Coker L910097	6.7	0.09
■ Morey	5.3	0.09
● Clemson 201	4.0	0.04
● Jackson	4.0	0.04
● Jaypee	4.0	0.04
Agripro 92D+4413	4.0	0.13
■ Hickory	2.7	0.03
■ Florida 304	2.7	0.03
Pioneer 2691	2.7	0.04
■ GA 87105-E43	2.7	0.03
● Hunter	2.7	0.08
Coker 9663	2.7	0.04
■ GA Gore	1.3	0.01
■ GA Dozier	1.3	0.01
Agratech FFR 502W	1.3	0.03
■ GA 871339-E18	1.3	0.01
■ Pioneer 2684	1.3	0.01
FL 92944RCX	1.3	0.01
● Clark	0	0
■ Coker 9134	0	0
■ Coker 9835	0	0
Agratech EX096W	0	0
■ Pioneer 2628	0	0
■ GA Stuckey	0	0
■ GA Fleming (90078-I)	0	0
FL 931839A5	0	0
GA 89482-E7	0	0
GA 881186-E48	0	0
GA 881404-E56	0	0
GA 881130-LE5	0	0
GA 891283-LE18	0	0
VA 93-52-60	0	0
LSD 0.1	7.9	0.13
LSD 0.05	9.4	0.16

* indicates mean is significantly greater than zero ($P < 0.1$; LSD test).

● Susceptible in previous trials.

■ Resistant in previous trials.

Table 13

Hessian fly infestations in entries of the State Wheat Variety Test at Plains, GA in 1995/1996.

Entry	% Infested Plants	Immatures per plant
•Jackson	34.5*	0.65*
Featherstone 520	32.8*	0.83*
ABI 9ZD-4413	32.6*	0.62*
•Pioneer 2643	28.3*	0.37*
Clemens	25.4*	0.44*
•NK Coker 9803	25.1*	0.36*
Mason	23.7*	0.55*
•GA 87467-E24	23.6*	0.37*
•Savannah	22.9*	0.37*
ARK 26158-4	19.5*	0.30*
GA 88509-E31	19.2*	0.25*
Pioneer 2691	17.4*	0.22*
•Clemson 201	17.2*	0.22*
•FL 85238-G585	16.4*	0.24*
NK Coker X 900819	14.7*	0.26*
•Clark	13.6*	0.21*
T 8725-E11	11.7*	0.16
♦GA 90078-I	10.8*	0.17
♦Hickory	9.4	0.12
♦Pioneer 2580	8.9	0.16
GA 88151-L19	6.4	0.10
♦Madison	4.0	0.06
♦Pioneer 2684	3.7	0.04
GA 87105-E43	3.2	0.05
GA 88355-L16	2.9	0.06
♦GA-Gore	1.3	0.01
♦Florida 304	1.1	0.01
VA 93-52-60	0.9	0.01
♦Pioneer 2628	0.8	0.01
♦GA Andy	0.6	0.01
GA 89253-E39	0.6	0.01
♦NK Coker 9134	0	0
♦Stacy	0	0
♦GA 871339-E18	0	0
♦GA 87436-E14	0	0
♦GA Dozier	0	0
♦NK Coker 9835	0	0
♦GA Stuckey	0	0
GA 88129-E11	0	0
♦Morey	0	0
LSD (0.1)	10.3	0.18
LSD (0.05)	12.3	0.21

Trial consists of 3 ft rows arranged in a randomized complete block design with 3 replicates; counts are from 1 ft of row per plot, collectd on Feb. 14, 1996 when plants were full tillering.

* significantly greater than zero ($P<0.1$).

• These entries have been susceptible in previous trials.

♦ These entries have been resistant in previous trials.

1996-97 Uniform Southern Soft Red Wheat Performance Nursery

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Seedling reaction of entries of the 1996-97 Uniform Southern Soft Red Wheat Performance Nursery to selected isolates of *Puccinia recondita* f. sp. *tritici* (comments or questions? Send a message to David L.Long)

		Reactions produced by Prt race										
No.	Cultivar or Line	PLMQ	MCJL	TCDL	LBBQ	SBJB	TCBG	TLGG	CBTB	MBRL	PNML	Postulated Lr genes*
1	FL 302	3	3	3	;	;	;	;	;	3	3	3,10
2	Coker 9835	;	;	;	;1c	;	;	3	;	;	;	2a,9,11
3	Pioneer 2643	;-3	;	;	;	;	;	;	3;	;	;	+
4	SC 900237	;	;	;	;	;	;	;	;	;	;	++
5	L910097	;	;	3	3;	;	;	;3	;	;2	;	2a,10,+
6	MO 94-317	;	;	;1c	;	;	;1c	;	;2	3-;	;	+
7	SC 910031	;	3-;	;1c	;1c	;	;1c	;	;1c	;1c	;	+
8	GA 87467	;	;	;	;	;	;	;	;	;	;	+
9	GA 871339	-	;-3	;	;1c	;	;	;1c	;	;	3-;	+
10	GA 90078	;	;1c	;-3	3	3	;-3	;	3	;	;1c	+
11	LA 85422C13142	;	;	;1c	;1c	;1c	;	;	;1c3	3;	;1c1	+
12	TX 91D6999	;	;-3	;-3	;	;	;	;1c	;-3	;	;	+
13	VA 94-52-68	;	;	;1c	;2c	;1c	;	;	;1c	;1c	;	+
14	VA 94-54-479	;	;	;-3	-	;-3	-	;	;1c-3	;1c	;1c	+
15	VA 94-54-549	-	;	;	;1c	3	;	;	;	;1c2	;	2a,11,17,+
16	AR 494B-2-2	3	3	3	3	;	;-3	;3	;	3	3	10
17	AR 584A-3-2	;	;	;	;	;	;	;1c	;	;	3	+
18	FL 92944RCX	;	;	;	;1c	;	;	;	;	;1c	;	+
19	FL 931339AS	;	;	;	;	;	;	;	;	;	;	+
20	FL 92944BX	;	;	;	;	;	;	;	;	;1c	;	+
21	A93-6061	;	;	;	;	3	;1c	3;	;	;	;	2a,11,17,+
22	A93-6227	;	;	;	;	3;	3-;	;	;	;	;1c	+
23	A93-7162	;	;	;	;1c	;	;	;	;	;	;1c	+
24	L920738	;1c	;	;	3-;	;	;	;	;	;	;	+
25	L920024	;	;	3	3;	;	;	;	;	;1c	;	2a,10,+
26	LA8889B213112	;	;	;	;	;	;	;	;	;	;1c	+

27	LA 8529B35112B1	;	;	;	;	;21c	;1c	;	;	;	;	+
28	LA87167D8102	;	;	;	;1c	;	;	;	;	;	;	+
29	TX 92D7702	3	3	3	3	3;	3;	3	3	3	3	0
30	TX92D8102	;1c	;	;	;	3	;	;	;	;	;	2a,11,17,+
31	NCV93-1007	;	;	;	;	;	;	;	;	;	;	+
32	NCV93-612	;	;	3	;1c	;	;1c	;	;	;	;	2a,10,+
33	TX18NT	;1c	;	;	;1c	;2c	;-3	;3	;1c3	;3	;-3	+

*Single genes tested = 1, 2a, 2c, 3, 3ka, 9, 10, 11, 16, 17, 18, 24, 26, 30

Virulence Formula:

PLMQ = 1, 2c, 3, 3ka, 9, 10, 18, 30
MCJL = 1, 3, 10, 11, 17, 26
TCDL = 1, 2a, 2c, 3, 10, 17, 26
LBBQ = 1, 10, 18
SBJB = 1, 2a, 2c, 11, 17
TCBG = 1, 2a, 2c, 3, 18, 26
TLGG = 1, 2a, 2c, 3, 9, 11, 18
CBTB = 3, 3ka, 11, 17, 30
MBRL = 1, 3, 3ka, 10, 11, 30
PNML = 1, 2c, 3, 3ka, 9, 10, 24, 30

**0 = no gene(s) detected with these Lr combinations; + = Lr gene(s) present but unable to identify with these Lr virulence combinations

LAB NO.		ENTRY	MILLING QUALITY SCORE			BAKING QUALITY SCORE			COMBINED QUALITY SCORE			MICRO T.W. LB/BU		SOFT. EQUIV		FLOUR YIELD			FLOUR PROT.
****		STANDARD	100.0	A		100.0	A		100.0	A		58.4		62.2		68.6			7.59
1801	1	FL 302	101.8	A		95.4	B		95.4	B		56.4	*	59.6		69.6			8.49
1802	2	Coker 9835	100.0	A		100.0	A		100.0	A		58.4		62.2		68.6			7.59
1803	3	Pioneer 2643	94.9	C		100.7	A		94.9	B		57.5		57.8	*	68.1			8.52
1804	4	SC 900237	79.9	F		84.7	E		79.9	F		59.1		57.0	*	64.3	Q		8.75
1805	5	L910097	96.4	B		94.3	C		94.3	C		63.8		57.2	*	68.1			9.23
1806	6	MO 94-317	104.7	A		107.5	A		104.7	A		57.8		62.3		70.3			8.20
1807	7	SC 910031	87.7	D		94.4	C		87.7	D		57.1	*	51.1	Q	67.4	*		9.19
1808	8	GA 87467	91.4	C		102.4	A		91.4	C		58.4		56.6	*	67.3	*		8.27
1809	9	GA 871339	90.4	C		83.3	E		83.3	E		57.0	*	56.5	*	67.2	*		8.45
1810	10	GA 90078	91.0	C		74.8	F		74.8	F		58.9		53.9	Q	67.5	*		8.21
1811	11	LA 85422-C13-1-4-2	100.9	A		97.7	B		97.7	B		59.0		55.0	Q	70.2			7.97
1812	12	TX 91D6999	77.9	F		61.2	F		61.2	F		57.9		50.1	Q	65.0	Q		9.37
1813	13	VA 94-52-68	95.0	B		85.5	D		85.5	D		59.3		56.4	*	68.1			9.16
1814	14	VA 94-54-479	88.9	D		72.1	F		72.1	F		58.9		53.2	Q	67.2	*		8.02
1815	15	VA 94-54-549	92.0	C		87.1	D		87.1	D		59.3		56.4	*	67.4	*		9.05
1816	16	AR 494B-2-2	95.8	B		89.9	D		89.9	D		58.0		56.1	*	68.5			8.53
1817	17	AR 584A-3-2	100.3	A		100.1	A		100.1	A		59.1		54.0	Q	69.9			8.92
1818	18	FL92944RCX	99.2	B		105.3	A		99.2	B		56.7	*	61.7		68.7			8.34
1819	19	FL931339AS	76.9	F		62.1	F		62.1	F		58.5		47.0	Q	65.1	Q		9.89
1820	20	FL92944BX	100.4	A		97.6	B		97.6	B		55.7	Q	60.3		69.3			8.78
1821	21	A93-6061	98.0	B		100.1	A		98.0	B		55.4	Q	60.3		68.7			8.62
1822	22	A93-6227	101.7	A		94.6	C		94.6	C		60.6		55.0	Q	70.4			9.44
1823	23	A93*7162	89.9	D		70.2	F		70.2	F		60.4		52.5	Q	67.3	*		9.32
1824	24	L920738	98.1	B		103.8	A		98.1	B		58.0		59.8		68.5			8.37
1825	25	L920024	92.0	C		87.9	D		87.9	D		59.9		55.0	Q	67.5	*		9.27
1826	26	LA8889-B-2-1-3-1-1-2	99.7	B		78.3	F		78.3	F		60.6		52.1	Q	69.8			9.26
1827	27	LA8529-B-3-5-11-2-B-1	93.3	C		86.8	D		86.8	D		58.8		54.7	Q	68.0			9.23
1828	28	LA87167-D8-10-2	97.9	B		93.5	C		93.5	C		59.7		51.4	Q	69.5			8.75
1829	29	TX92D7702	95.9	B		108.0	A		95.9	B		54.0	Q	62.8		68.0			8.22
1830	30	TX92D8102	87.9	D		38.4	F		38.4	F		57.5		44.3	Q	68.3			8.90
1831	31	NCV93-1007	102.8	A		105.2	A		102.8	A		56.8	*	59.7		70.5			8.66
1832	32	NCV93-612	103.8	A		104.6	A		103.8	A		60.0		59.0		70.6			8.79
1833	33	TX18NT	96.1	B		90.9	C		90.9	C		58.7		59.6		68.0			8.80

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
University of Georgia Research Foundation Florida Agricultural Experiment Station	GA87467E24	518W

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	5. TELEPHONE *(include area code)*	6. FAX *(include area code)*
Boyd Graduate Studies Research Center Room 630 Athens, GA 30602-7411	706-542-6512	706-542-3837

7. PVPO NUMBER 9800327

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* If no, please explain. [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? [X] YES [ ] NO
If no, give name of country

10. Is the applicant the original owner? [X] YES [ ] NO *If no, please answer one of the following:*

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?
[X] YES [ ] NO If no, give name of country

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?
[X] YES [ ] NO If no, give name of country

11. Additional explanation on ownership *(if needed, use reverse for extra space)*:

SEE ATTACHMENT

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

STD-470-E (07-97) *(Destroy previous editions).*
Electronic version designed using WordPerfect InForms by USDA-AMS-IMB.

Exhibit E
Statement of Applicant's Ownership 518W

The variety for which plant variety protection is hereby sought is owned jointly by the University of Georgia Research Foundation, Inc. (UGARF) and the Florida Agricultural Experiment Station, University of Florida (FAES).

Ownership by UGARF in the variety for which plant variety protection is hereby sought is based on the Patent Policy approved by the Board of Regents of the University System of Georgia on June 9, 1982, in which the Board of Regents assigned to the University of Georgia Research Foundation, Inc. all rights in intellectual property developed or created by employees at The University of Georgia, one of the universities of the University System of Georgia. Rights of novel plant varieties developed at The University of Georgia, including '518W', are covered by said Patent Policy. As employees of The University of Georgia, Jerry W. Johnson, Barry Cunfer, and G. David Buntin, pursuant to said Patent Policy, have assigned their right sin '518W' to the University of Georgia Research Foundation, Inc.

Ron Barnett and Paul Pfahler are employees of the Florida Agricultural Experiment Station, the University of Florida.